United States Patent [19]

Kross

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[45] **Date of Patent: Feb. 2, 1988**

[54] **CORD LOCK FOR VENETIAN BLINDS**

[75] Inventor: **Robert C. Kross**, Kearny, N.J.

[73] Assignee: **Levolor Lorentzen, Inc.**, Parsippany, N.J.

[21] Appl. No.: **922,728**

[22] Filed: **Oct. 24, 1986**

[51] **Int. Cl.**[4] **E06B 9/324**

[52] **U.S. Cl.** ..... **160/178 C**; 160/168 R

[58] **Field of Search** ..... 160/178 C, 168 R, 178 R

[56] **References Cited**

U.S. PATENT DOCUMENTS

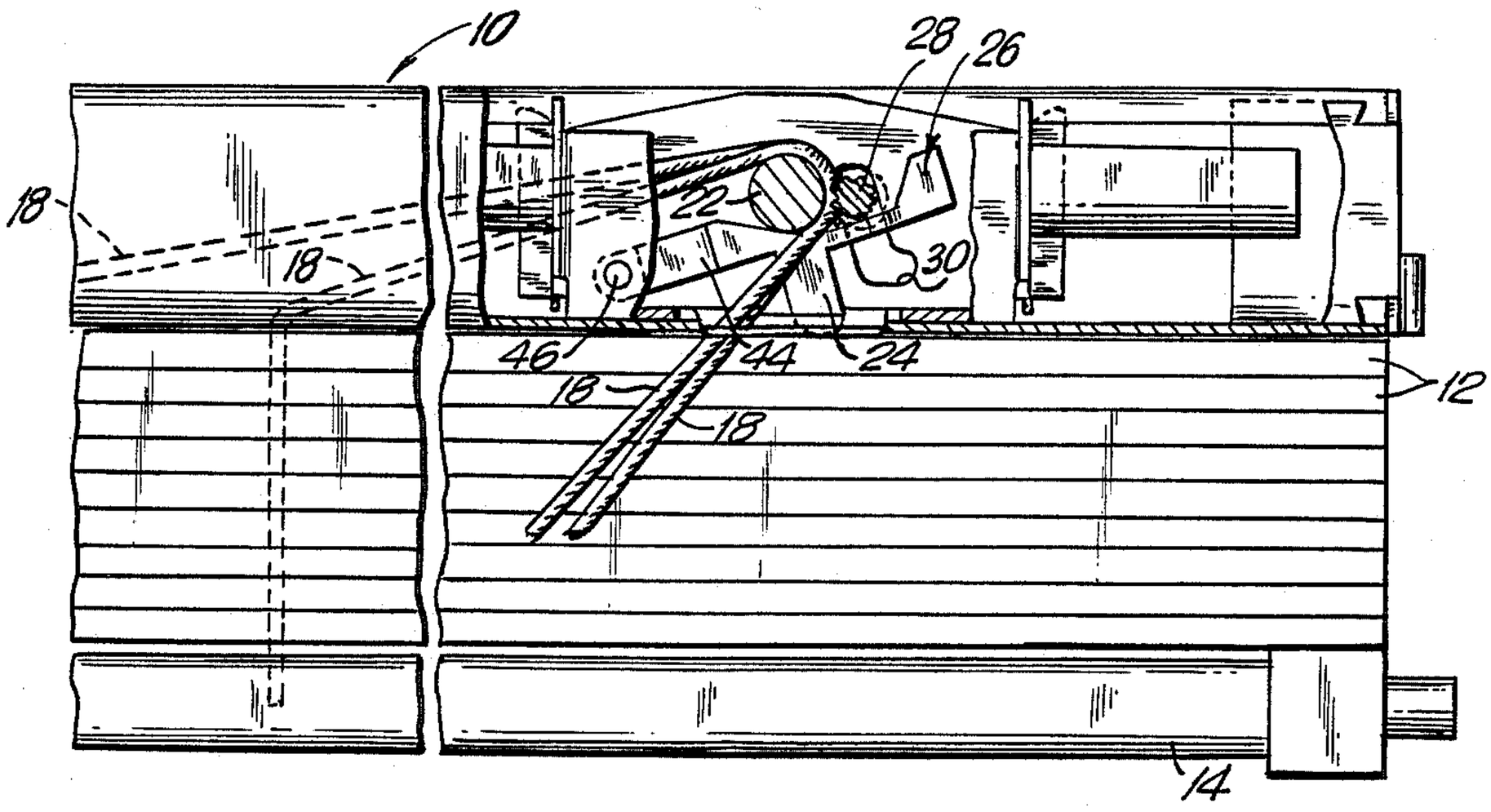
3,799,236	3/1974	Debs	160/178 C
3,952,789	4/1976	Marotto	160/178 C
4,245,688	1/1981	Vecchiavelli	160/178 C

Primary Examiner—J. Franklin Foss
Assistant Examiner—David L. Talbott

[57] **ABSTRACT**

A cord lock for locking a venetian blind in its raised position only. The lock has a housing with spaced side walls spanned by a smooth-surface pin, a knurled roller slidably received in slots in the side walls, a plastic lever below the pin and roller and having an extension below the blind head. The lift cords of the blind pass between the pin and roller. The extension is engaged by the top-most slat of the blind which lifts the lever and knurled roller thereby causing the lift cords to draw the knurled roller up the slot locking the lift cords between the roller and pin.

4 Claims, 9 Drawing Figures



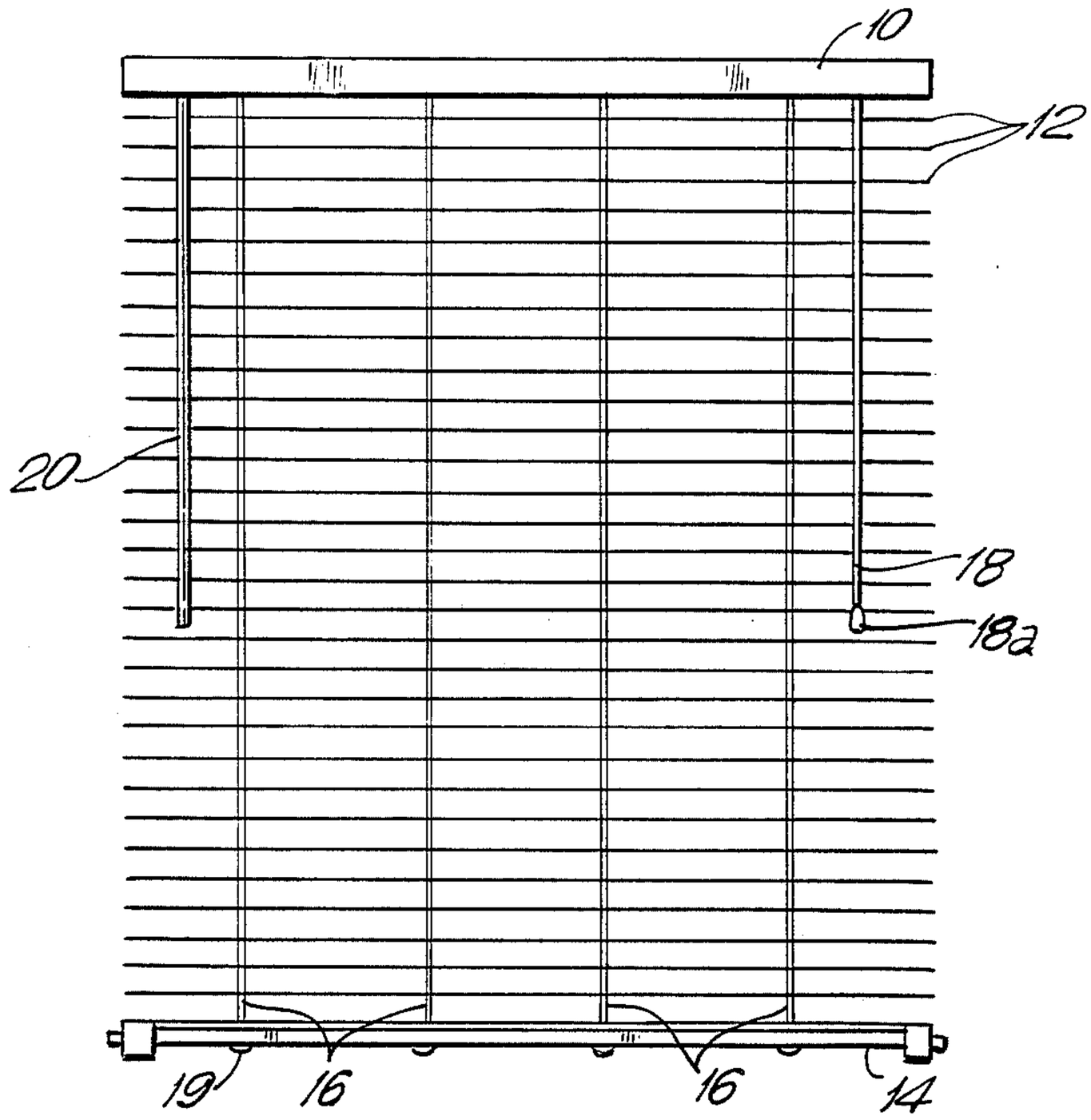


FIG. 1

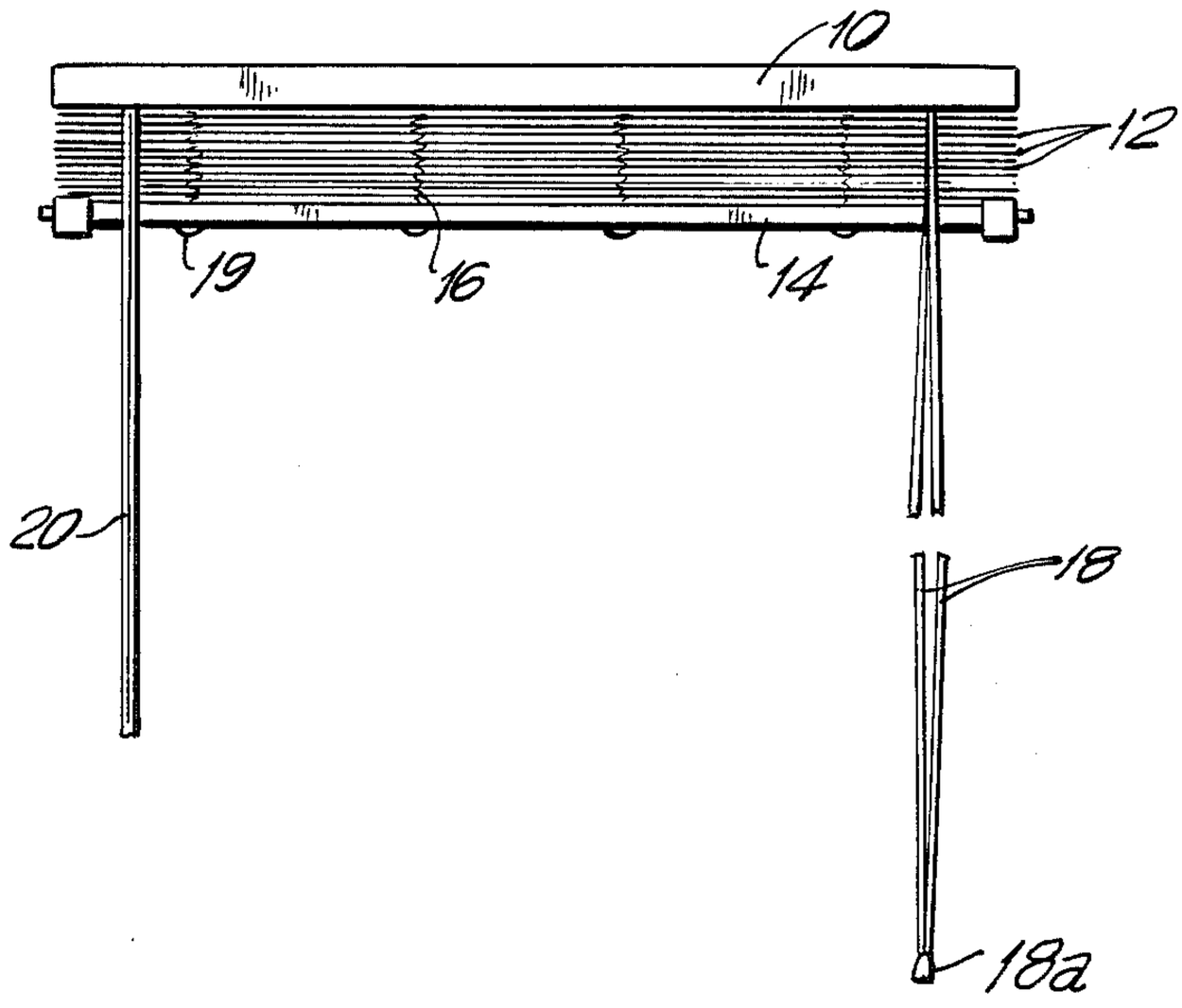
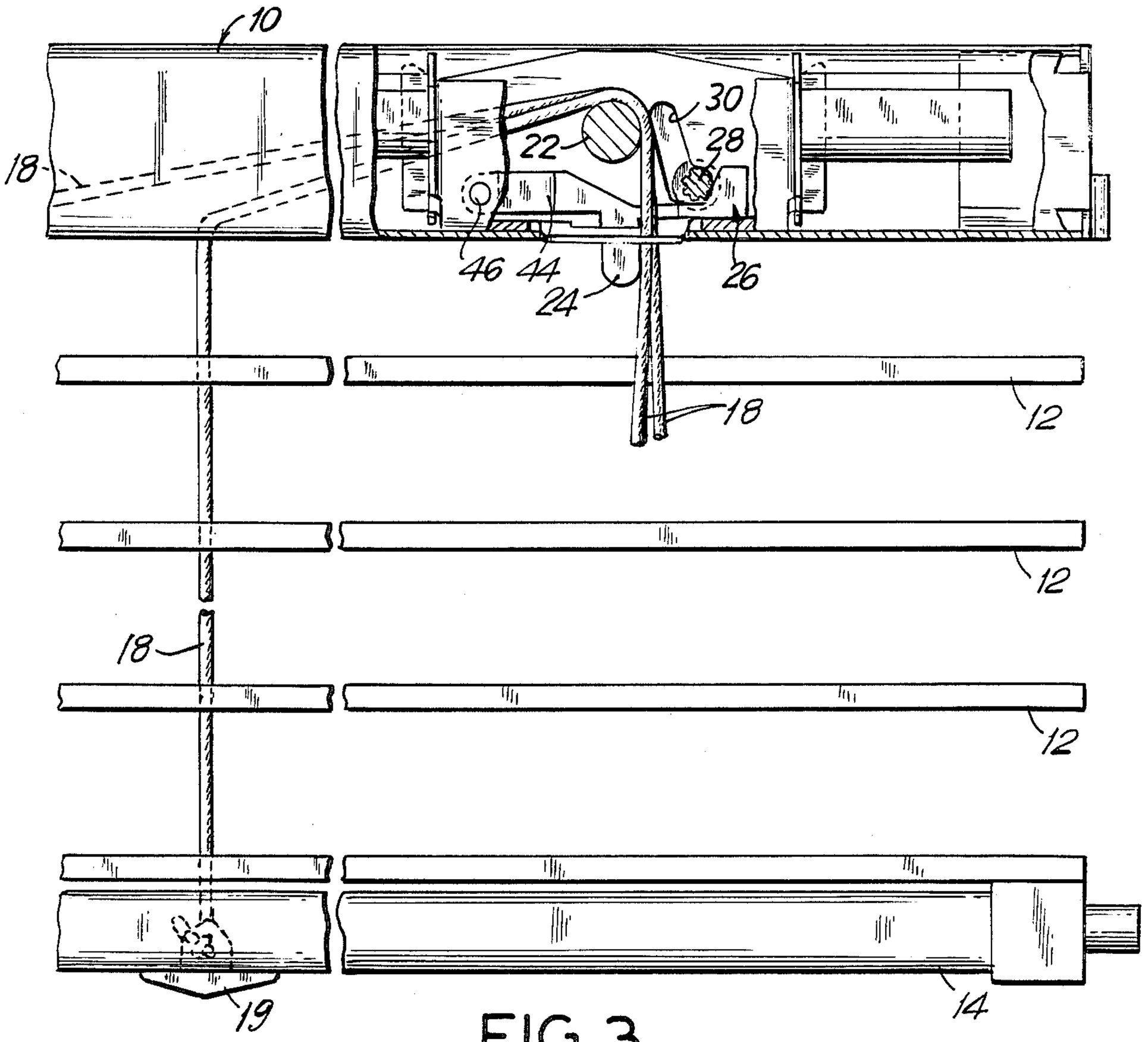


FIG. 2


10
18
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46
44
24
26
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12
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FIG. 3

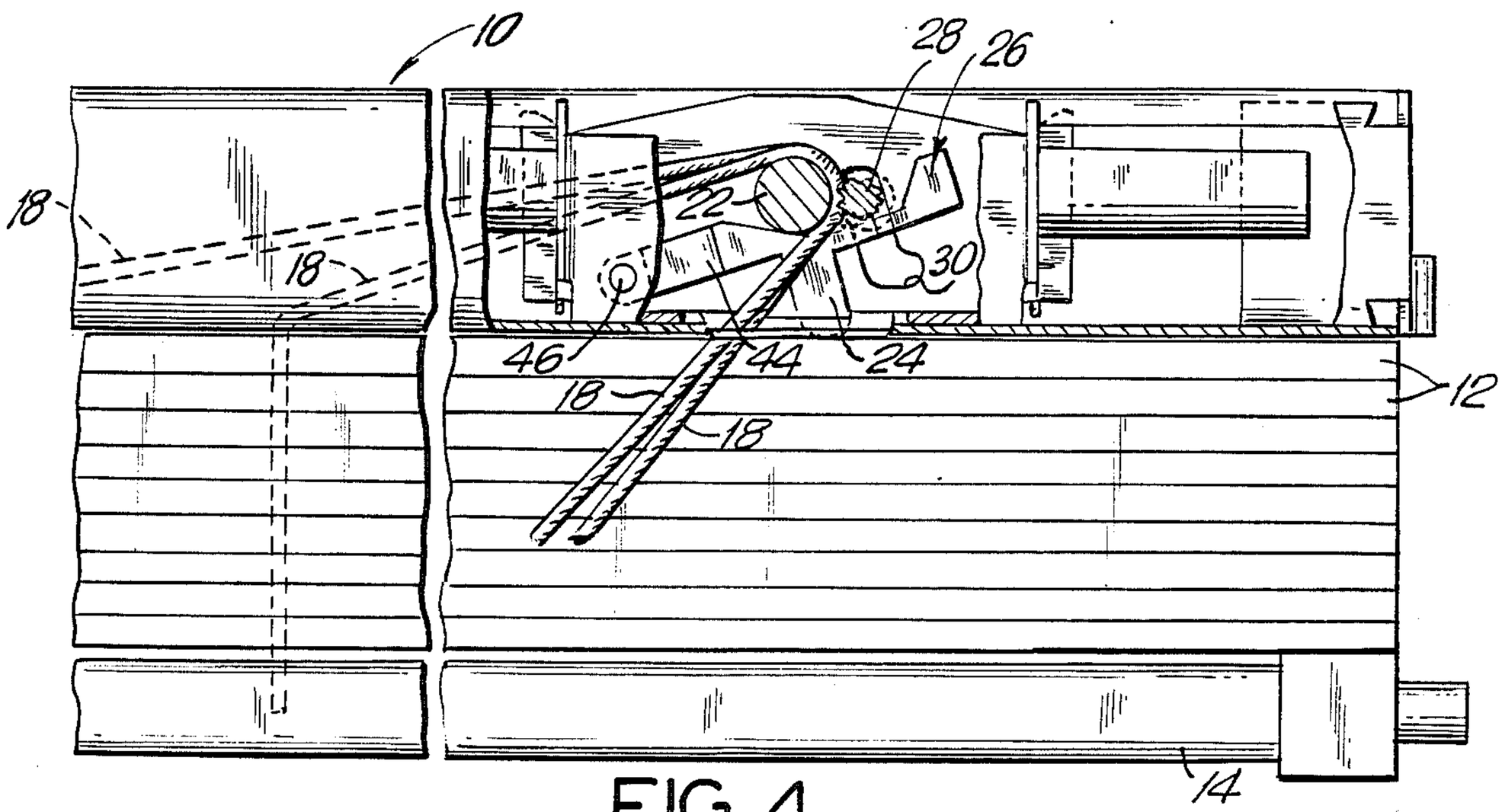
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FIG. 4

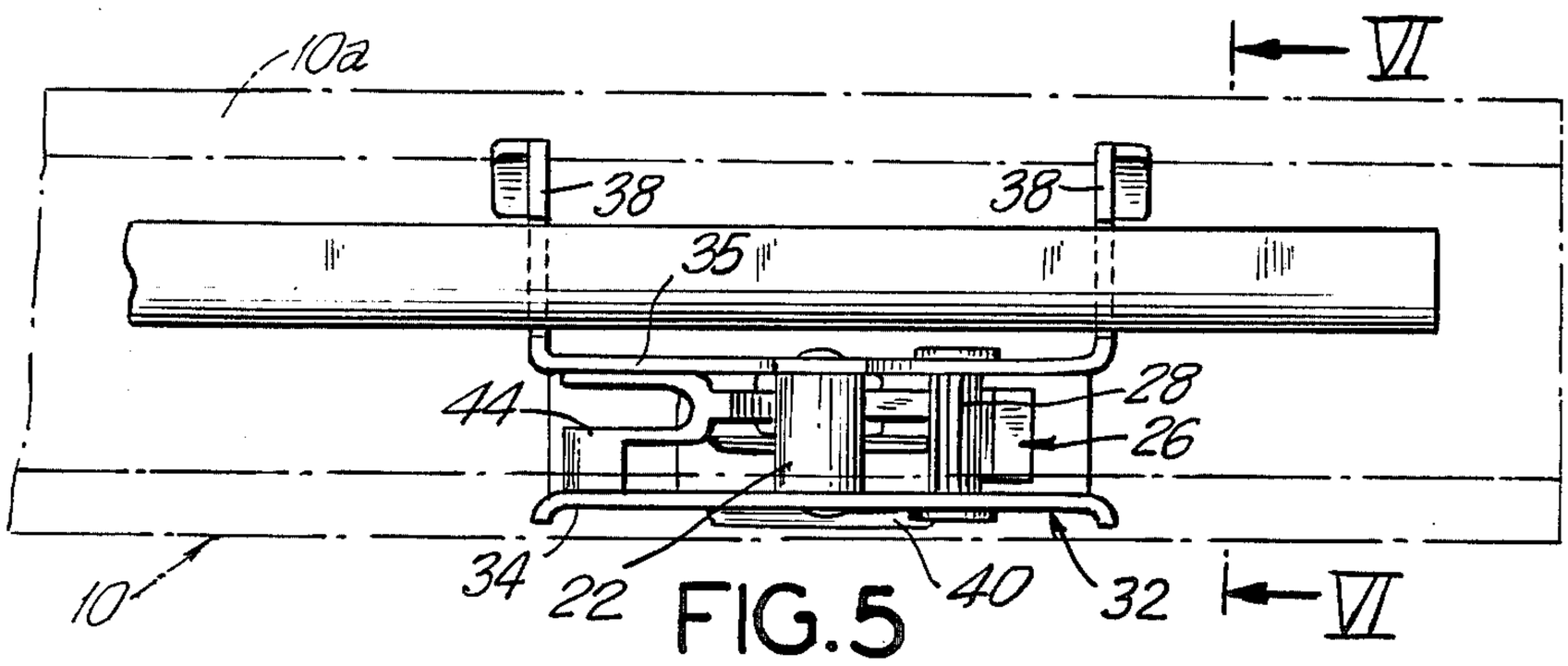

FIG.5

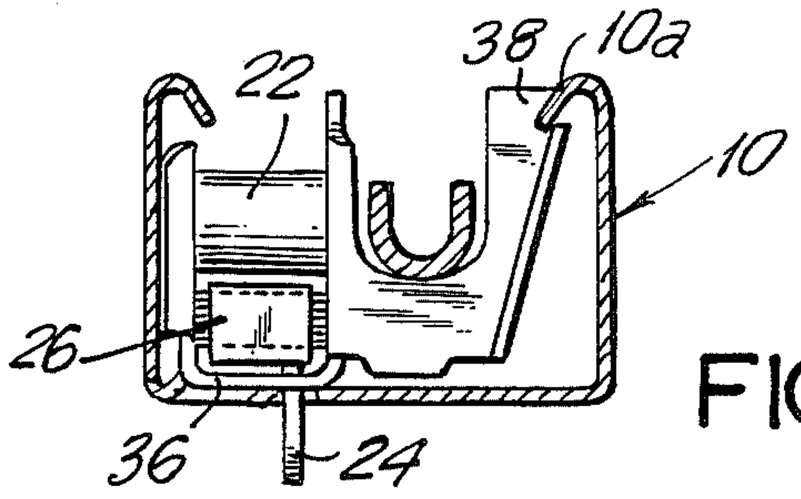

FIG.6

FIG. 7

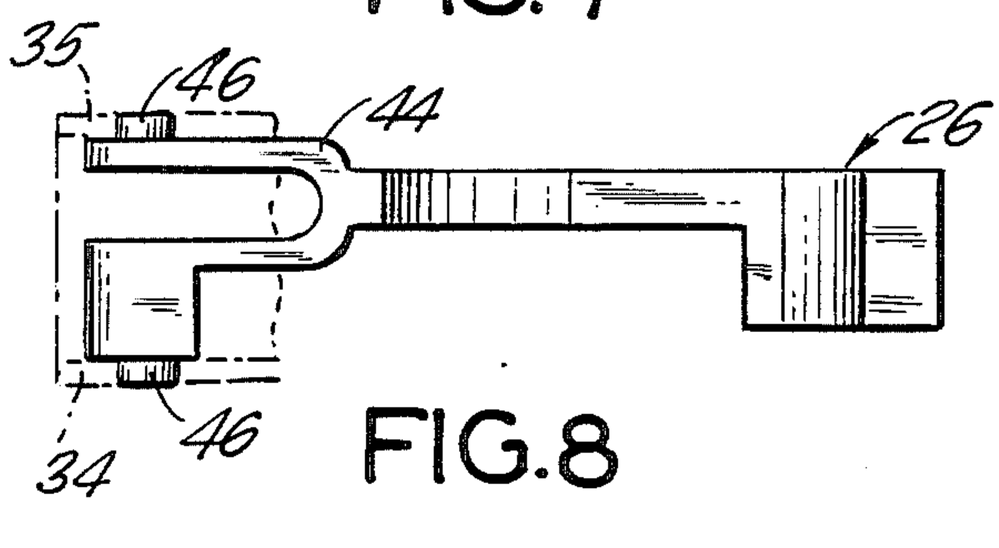

FIG.8

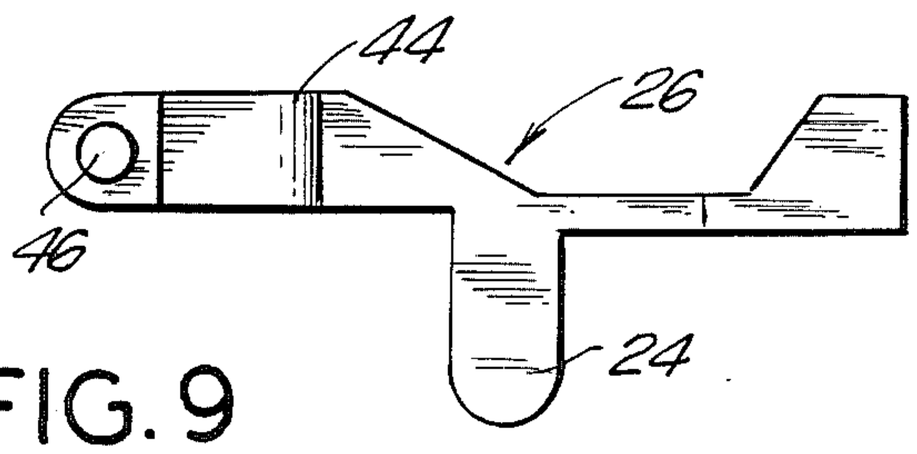

FIG.9

CORD LOCK FOR VENETIAN BLINDS

BACKGROUND OF THE INVENTION

The present invention relates to cord locks for venetian blinds, and more specifically to a cord lock called a top lock in the venetian blind art. This type of cord lock permits locking of the blind only when it is fully raised, but not at any intermediate positions between the fully raised or a fully lowered position. This is desirable for a building with a large number of blinds and where blinds standing at miscellaneous heights would create an unattractive appearance from the outside. For this reason, or perhaps other reasons, building owners may want to have the blinds at either a fully raised or a fully lowered position, but at no intermediate positions.

Top locks of this type are known, for instance from U.S. Pat. No. 3,799,236. The top lock disclosed in this patent is relatively complicated.

It is an object of the present invention to provide a new top lock, especially adapted for mini-blinds and micro-blinds.

BRIEF DESCRIPTION OF THE DRAWING

The invention will now be described with reference to the accompanying drawings, in which:

FIG. **1** is a front view of a fully lowered venetian blind;

FIG. **2** is a front view of the venetian blind of FIG. **1** when fully raised;

FIG. **3** is an enlarged sectional view of the blind of FIG. **1**, incorporating the top lock of the present invention in the head of the blind;

FIG. **4** is an enlarged sectional view similar to that of FIG. **3**, but with the venetian blind fully raised;

FIG. **5** is a top view of the top lock;

FIG. **6** is a sectional end view of the top lock, taken along the line VI—VI of FIG. **5**;

FIG. **7** is a bottom view of the blind head and of the top lock;

FIG. **8** is a top view of a part of the top lock; and

FIG. **9** is a side view of FIG. **8**.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

Referring now to FIGS. **1** and **2**, these figures show a conventional venetian blind having a venetian blind head **10** from which are suspended slats **12** and a bottom rail **14**, by means of ladders **16**. In conventional manner the bottom rail and thereby the slats can be raised or lowered by means of two lift cords **18** attached to the bottom rail by caps **19** and passing through slots (not shown) in slats **12**. As likewise well known in the art slats **12** can be tilted to different positions by a wand **20**.

The venetian blind head **10** is provided with a so-called top lock shown in greater detail in FIGS. **3** to **9**. It comprises a housing **32** having two parallel side walls **34,35** joined by a bottom wall **36**. Side walls **34,35** extend lengthwise of blind head **10**. At the ends of the side wall **35** there are wings **38** which snap under flange **10***a* of blind head **10** while a lip **40** is received within a cut-out **42** in blind head **10**. A lever **26** located between

the side walls **34,35** has an extension **24** protruding below the blind head through a cut-out **42** and an opening **43** in bottom wall **36**. Lever **26** consists of plastic material and has a crank-like U-shaped portion **44** which is journalled by pivots **46** in walls **34, 35** of housing **32**.

The lift cords **18** pass from one side of the blind, the right hand side in the embodiment shown in FIG. **1**, through the top lock in the blind head and from there between the ladders **16**. The lift cords **18** pass over a smooth roll or fixed pin **22** of the top lock. However, when the blind has been completely raised, as shown in FIG. **4**, extension **24** of lever **26** of the top lock will be raised by the top-most slat **12** and cause a knurled rivet **28** in an L-shaped slot **30** of the top lock to be lifted by the lever **26** so as to contact the lift cords **18**. The knurled rivet **28** is drawn up slot **30** by the lift cords **18** locking the lift cords **18** between pin **22** and rivet **28**. When the blind is to be lowered again, pulling downwardly at ends **18***a* of the cords **18** will cause the knurled rivet **28** to disengage from cords **18** and slide downward within slot **30**. This frees the cords **18**, and the blind will be lowered by gravity.

What is claimed is:

1. A cord lock for use in a venetian blind having a ladder-and-slat assembly suspended beneath a head of the blind, the blind being raised and lowered by lift cords which pass through the cord lock and hang down for manual manipulation to raise and lower the blind, and the top slat of the blind moving upwardly as the blind is raised into uppermost position, said cord lock comprising: a housing fastened in said blind head, said housing having two spaced side walls and also a bottom wall with an opening, a pin having a smooth surface and fastened to and spanning the space between said side walls, two slots respectively arranged in said two side walls adjacent said pin and aligned with each other, a knurled roller slidably received in said slots, the lift cords extending through said opening and between said pin and said roller, and a lever pivotally arranged in said housing and extending above said bottom wall and below said roller and said pin, said lever having an extension extending through said opening and below said housing and said blind head, whereby said lift cords may pass freely over said pin and between said roller and pin when the top slat is disengaged from said extension, but the top slat upon being raised will engage said extension, will lift said lever, and the latter will lift said roller and thereby lock said lift cords between said roller and said pin.

2. A cord lock according to claim **1**, wherein said slot is essentially L-shaped and having a relatively short leg adjacent said bottom wall and a relatively long leg extending at an angle upwardly from said relatively short leg into close proximity with said pin.

3. A cord lock according to claim **1**, wherein said lever consists of a plastic material.

4. A cord lock according to claim **1**, wherein said housing has a pair of wings adapted to snap under a flange of the blind head, and a lip adapted to be received in a cut-out of said blind head.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 4,722,383

DATED : Feb. 2, 1988

INVENTOR(S) : Robert C. Kross

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

[75] Inventors: Robert C. Kross, Kearny, N.J. and
Otto Kuhar, Garfield, N.J.

Signed and Sealed this

Nineteenth Day of July, 1988

Attest:

DONALD J. QUIGG

Attesting Officer

Commissioner of Patents and Trademarks